Motorola AUTO RADIO

SERVICE MANUAL

MODELS
555
555 - 12
595
595 - 12

GENERAL INFORMATION

TYPE - Universal type superheterodyne receiver designed for underdash mounting. Receiver may be mounted in-dash with an AK-111 overlay. Models 555 & 555-12 have an internal speaker. Models 595 & 595-12 have an external speaker.

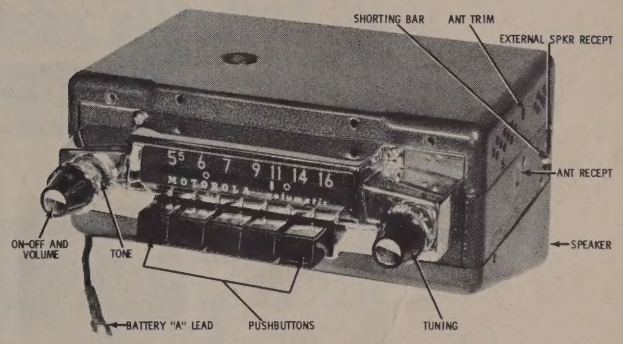
TUNING RANGE - 535 to 1605 Kc IF - 455 Kc

OPERATES FROM - 6 volt storage battery (555 & 595)
12 volt storage battery (555-12 & 595-12)

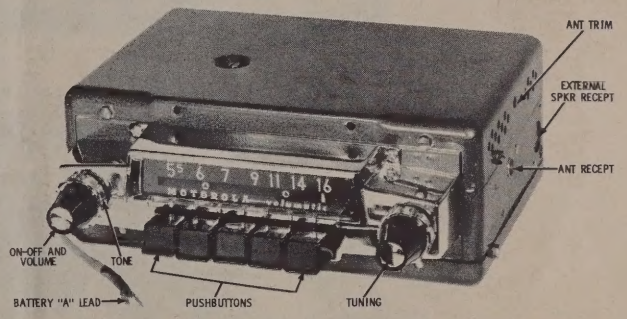
TUBE COMPLEMENT -

Models 555 & 595: 6BD6 RF amp; 6BE6 conv; 6BD6 IF amp; 6CR6 Det, AVC, 1st AF amp; 6AQ5 pwr amp; 6X4 rect.

Models 555-12 & 595-12: 12BD6 RF amp; 12BE6 conv; 12BD6 IF amp; 12CR6 Det, AVC, 1st AF amp; 12AQ5 pwr amp; 12X4 rect.



MODEL 555 & 555-12



MODEL 595 & 595-12

TO SET THE PUSHBUTTONS

This receiver has an automatic tuner, with 5 "Push to Lock" pushbuttons for automatic station selection.

To set the pushbuttons for automatic tuning, proceed as follows:

1. Tune in the desired station with the manual tuning knob. Tune carefully until you are exactly on the station.

2. Pull out the first pushbutton to be set, to unlock the button for station set-up, and then push button in firmly to set and lock the button.

3. Follow the above procedure for the remaining four buttons.

MOTOROLA AUTO RADIO WARRANTY SERVICE STATION PROCEDURE FOR BRANDED MODELS

1. The definition of a Motorola Branded Model is one that is branded with the Motorola name, and distributed to dealers through authorized Motorola Distributors.

2. Before performing a warranty repair on a Motorola Branded Auto Radio, you must first receive from the customer the Customer's Warranty Policy. This policy must be filled out by the selling dealer at the time of retail purchase. The Customer's Warranty Policy must show the radio to be within the ninety day warranty period if the repair is to be handled under the Motorola Auto Radio Warranty Plan.

3. The removal or reinstallation of the radio, the elimination of motor noise, tire static, electrical interference, or faulty installation and aerial repairs are not considered as warranty repairs. Consequently, charges for these services are to be borne by the customer.

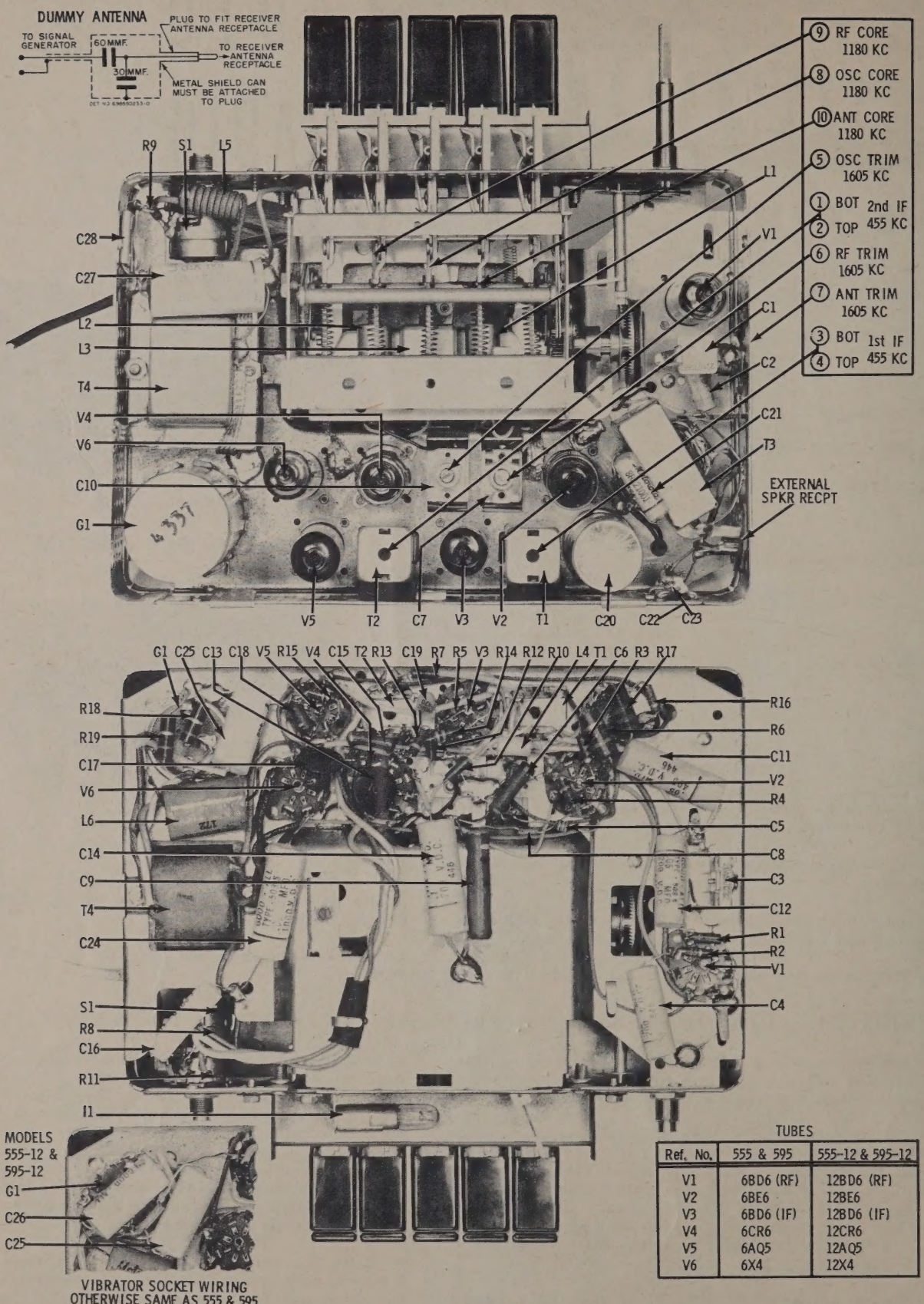
4. Fill in the Motorola Auto Radio Warranty Labor Claim, Part No. 54P480884, and mail White and Green copies to the Motorola Distributor serving your area. The Yellow copy is to be retained by the Warranty Service Station for his files.

5. Defective parts for warranty repairs made on Motorola Branded Auto Radios are to be sent to your Motorola Distributor for free replacement, supported with the defective parts return form which you are now using.

6. Only those service shops authorized by their Motorola Distributor can perform repairs within the warranty period on a no-charge basis to the customer. If you are not already authorized as a Motorola Auto Radio Warranty Service Station, and you are interested in handling this service, please contact your Motorola Distributor for complete details.

MOTOROLA, INC. 4545 AUGUSTA BLVD. CHICAGO 51, ILLINOIS

Part No. 68P533793 Price 10 cents Printed in U.S.A.

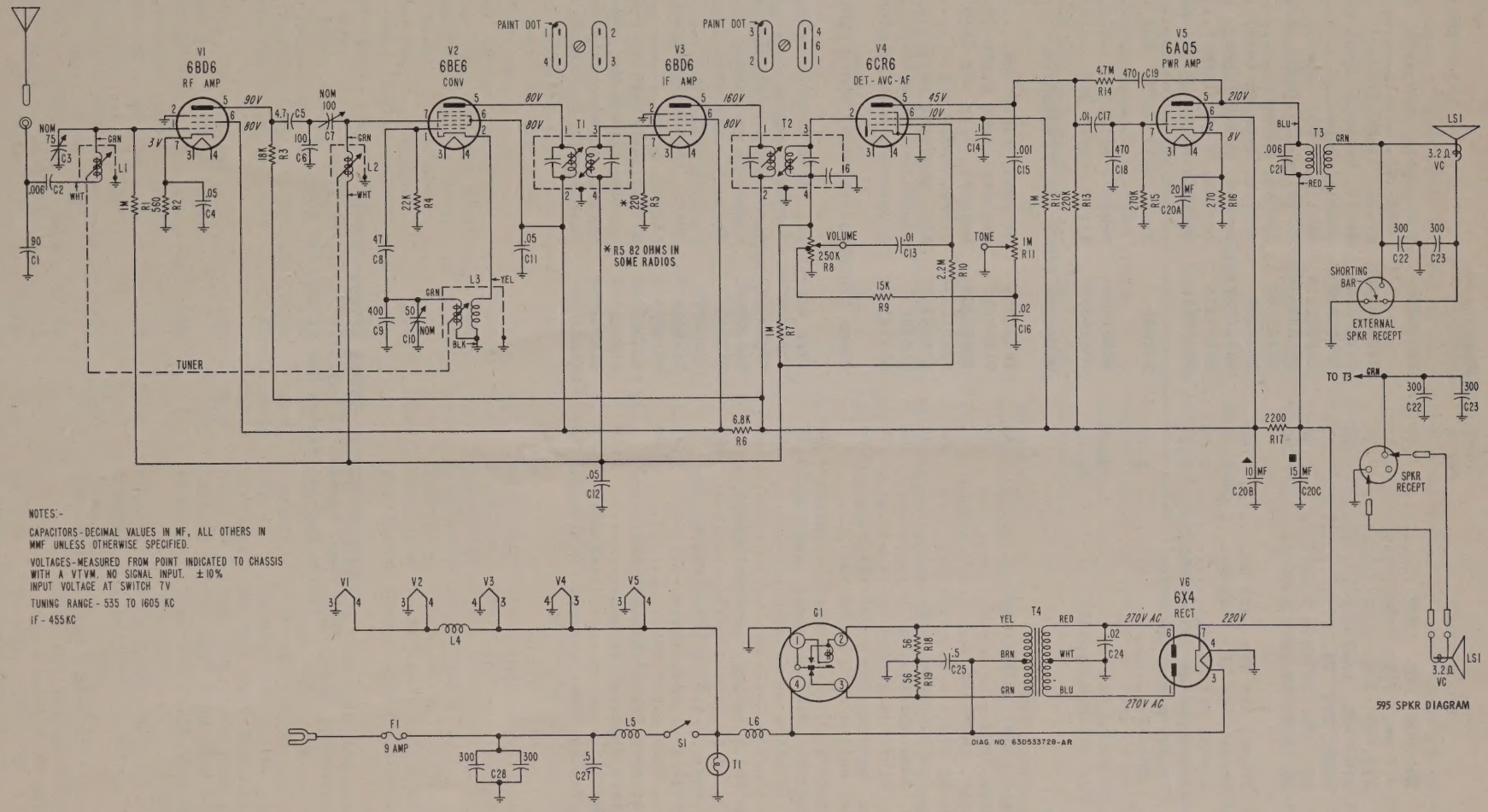


VIBRATOR SOCKET WIRING OTHERWISE SAME AS 555 & 595

TUBES

Ref. No.	555 & 595	555-12 & 595-12
V1	6BD6 (RF)	12BD6 (RF)
V2	6BE6	12BE6
V3	6BD6 (IF)	12BD6 (IF)
V4	6CR6	12CR6
V5	6AQ5	12AQ5
V6	6X4	12X4

ALIGNMENT ADJUSTMENT & PARTS LOCATION.



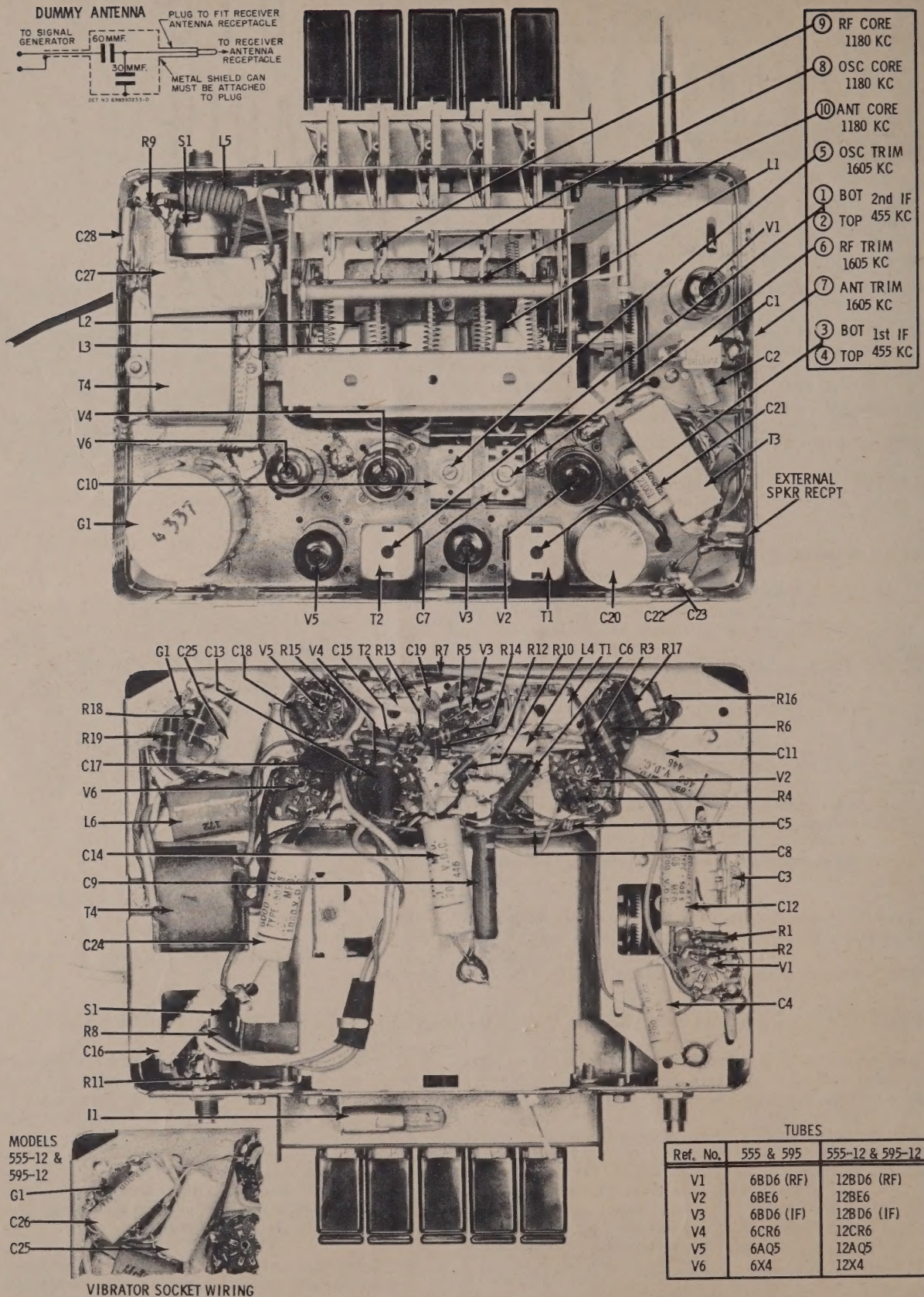
NOTES:-

CAPACITORS-DECIMAL VALUES IN MF, ALL OTHERS IN MMF UNLESS OTHERWISE SPECIFIED.

VOLTAGES-MEASURED FROM POINT INDICATED TO CHASSIS WITH A VTVM. NO SIGNAL INPUT. ±10% INPUT VOLTAGE AT SWITCH 7V

TUNING RANGE-535 TO 1605 KC

IF-455KC



VIBRATOR SOCKET WIRING OTHERWISE SAME AS 555 & 595

TUBES

Ref. No.	555 & 595	555-12 & 595-12
V1	6BD6 (RF)	12BD6 (RF)
V2	6BE6	12BE6
V3	6BD6 (IF)	12BD6 (IF)
V4	6CR6	12CR6
V5	6AQ5	12AQ5
V6	6X4	12X4

ALIGNMENT

Connect output meter across speaker voice coil. Set volume and tone to maximum. Attenuate signal generator output to maintain 1.79 volts (1 watt) on output meter to prevent overloading.

STEP	DUMMY ANTENNA	GENERATOR CONNECTION	GENERATOR FREQUENCY	TUNER SET TO	ADJUST	REMARKS
IF ALIGNMENT						
1.	.1 mf	Conv grid (pin 7) & chassis	455 Kc	Hi end stop	1,2,3,4	Peak for maximum.
RF ALIGNMENT						
2.	See Fig.	Ant recept	1605 Kc	Hi end stop	5,6,7	Peak for maximum.
NOTE:	Back tuner cores completely out of coils, but not out of coil forms. Remove escutcheon to expose core screws. Steps 3 & 4 are not used unless tuner has been tampered with or components have been replaced.					
3.	See Fig.	Ant recept	1180 Kc	19/64" from hi end stop	8,9,10	Peak for maximum using alignment tool, Motorola Part No. 66A76278.
4.	Repeat steps 2 and 3 until no further increase, then cement cores in place.					
5.	-	-	-	Weak station around 1400 Kc.	7	With radio installed in car, peak ant trimmer.

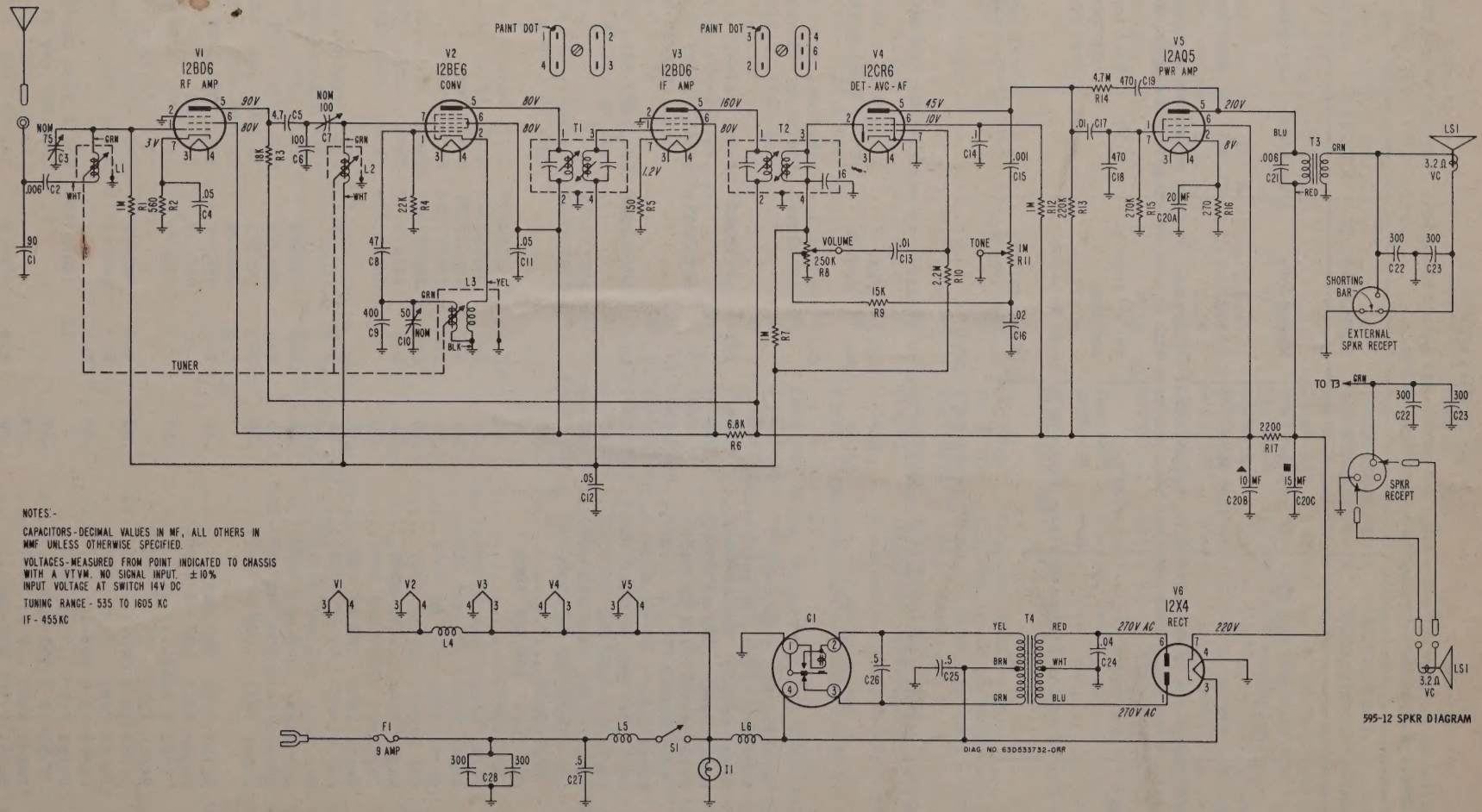
REPLACEMENT PARTS LIST

NOTE: When ordering parts, specify model number of set in addition to part number and description of part.

Ref. No.	Part Number	Description	List Price
ELECTRICAL PARTS			
Capacitors (Cer = Ceramic; Mld = Molded; Tub = Tubular; Lytic = Electrolytic)			
C-1	21A591682	Mica, metal: 90 mmf 500V...	.20
C-2	8R121001	Paper Tub: .006 mf 400V....	.30
C-3	20A513232	Trim, mica: nom 75 mmf; incl brkt.....	.40
C-4	8R121005	Paper Tub: .05 mf 200V.....	.25
C-5	21R115955	Mld: 4.7 mmf 500V.....	.25
C-6	21R120124	Cer Tub: 100 mmf 500V.....	.25
C-7	20A481526	Trim, mica: nom 100 mmf....	.30
C-8	21R115593	Cer Disc: 47 mmf 500V NTC750PPM.....	.25
C-9	21A71872	Cer Tub: 400 mmf 500V NTC150PPM.....	.65
C-10	20A77537	Trim, mica: nom 50 mmf.....	.25
C-11	8R121567	Paper Tub: .05 mmf 400V....	.25
C-12	8R121005	Paper Tub: .05 mf 200V.....	.25
C-13	21R482726	Cer Disc: .01 mf 500V.....	.35
C-14	8R121573	Paper Tub: .1 mf 200V.....	.25
C-15	21R115860	Cer Tub: 1000 mmf 500V.....	.25
C-16	8R121566	Paper Tub: .02 mf 400V.....	.25
C-17	21R482726	Cer Disc: .01 mf 500V.....	.35
C-18	21R115856	Cer Tub: 470 mmf 500V.....	.25
C-19	21R114554	Cer Disc: 470 mmf 500V.....	.25
C-20	23A485677	Lytic:10-15-20mf/350-350-25V	2.25
C-21	8R121001	Paper Tub: .006 mf 400V....	.25
C-22, 23	21A522033	Metal: 2X 300 mmf.....	.25
C-24	8R121004	Paper Tub: .02 mf 1000V (555 & 595).....	.30
	8R121549	Paper Tub: .04 mf 1000V (555-12 & 595-12).....	.35
C-25	8K122076	Paper Tub: .5 mf 100V (555-12 & 595-12).....	.55
C-26	8K122076	Paper Tub: .5 mf 100V (555-12 & 595-12).....	.55
C-27	8K121666	Paper Tub: .5 mf 100V.....	.45
C-28	21A522033	Metal: 2X 300 mmf.....	.25
F-1	65X16248	Fuse: 9 amp.....	.05
G-1	48B3333	Vibrator, 6 volt (555 & 595)	3.80
	48B522000	Vibrator, 12 volt (555-12 & 595-12).....	4.70
I-1	65X10867	Bulb, pilot: 6.3V .25A #44 (555 & 595).....	.15
	65T533821	Bulb, pilot: 12-16V .2A #1891 (555-12 & 595-12)....	.25
LS-1	50C522055	Speaker, PM: 5" x 7"; 3.2 ohm VC (555 & 555-12).....	5.50**
	50C533088		
or	50C534058	Speaker, PM: 6" x 9"; 3.2 ohm VC (595 & 595-12).....	
L-1	24K522272	Coil, ant.....	.95
L-2	24B522271	Coil, RF.....	1.10
L-3	24B522270	Coil, osc.....	1.55
L-4	24A522284	Choke, fil.....	.10
L-5	24K522091	Choke, RF.....	.10
L-6	24A512119	Choke, hash (555 & 595).....	.65
	24A521816	Choke, hash (555-12 & 595-12)	.35
Resistors - Note: All resistors are insulated carbon type unless otherwise specified			
R-1	6R6004	1 meg 20% 1/2W.....	.15
R-2	6R6291	560 10% 1/2W.....	.15
R-3	6R5591	18,000 10% 1/2W.....	.15
R-4	6R6028	22,000 20% 1/2W.....	.15
R-5	6R6270	220 10% 1/2W (555 & 595)..	.15
or	6R2035	82 10% 1/2W (555 & 595)...	.15
	6R6373	150 10% 1/2W (555-12 & 595-12).....	.15
R-6	6R5690	6800 10% 2W.....	.25
R-7	6R6004	1 meg 20% 1/2W.....	.15
R-8, 11	18B531539	Vol & Tone Control: vol 250,000 tap at 125,000; Tone 1 meg; incl switch....	2.10
R-9	6R2119	15,000 20% 1/2W.....	.15
R-10	6R3927	2.2 meg 20% 1/2W.....	.15
R-12	6R6004	1 meg 20% 1/2W.....	.15
R-13	6R6015	220,000 20% 1/2W.....	.15
R-14	6R2122	4.7 meg 20% 1/2W.....	.15
R-15	6R6414	270,000 10% 1/2W.....	.15
R-16	6R6432	270 10% 1/2W.....	.15
R-17	6R476130	2200 20% 2W.....	.25
R-18	6R2037	56 10% 1W (555 & 595).....	.20
R-19	6R2037	56 10% 1W (555 & 595).....	.20
T-1	24C485553	Trans, 1st IF: 455 Kc.....	1.45
T-2	24K485554	Trans, 2nd IF: 455 Kc.....	1.55
T-3	25B70171	Trans, output.....	2.05
T-4	25C501303	Trans, power (555 & 595)....	4.45
	25C521841	Trans, power (555-12 & 595-12).....	5.10

Part Number	Description	List Price
MECHANICAL PARTS		
7K533079	Bracket, dial background.....	.45
43A501295	Bushing, mtg.....	.20
43A521393	Bushing, threaded.....	
42B485548	Clip, IF mtg.....	.01
42A500645	Clip, pushbutton spring.....	.25
42A522402	Clip, tube shield.....	.05
42A4215	Clip, vibrator ground.....	.10
*15K533477	Cover, bottom (555 & 555-12).....	2.80
15D534350	Cover, bottom (595 & 595-12).....	
*15K533082	Cover, top.....	1.85
13D522024	Escutcheon, dial.....	1.35
36K522022	Knob (dummy).....	.40
36B522020	Knob (tone).....	.40
36B522008	Knob (vol & tuning, incl setscrew)	.75
*2B521332	Nut, clinch.....	.01
2A522069	Nut, hex: 3/8-32 x 1/2" (vol & tuning).....	.01
*64K533074	Plate, dial scale ret.....	.20
64K521405	Plate, spkr mtg (595 & 595-12)....	
*52A522009	Pointer, dial.....	.10
1V522215	Pushbutton.....	.20
9K592648	Receptacle, fuse.....	.85
29A76280	Term, pin: blk (spkr leads 595 & 595-12).....	
*34B533825	Scale, dial.....	.25
51K522031	Shaft, tuning: incl bushing.....	1.20
26A522403	Shield, tube.....	.05
26A592419	Shield, tube: spring type.....	.05
28A533474	Shorting Bar (spkr recept).....	.03
9A472148	Socket, antenna.....	.25
9A70208	Socket, 4-prong (vib).....	.20
9K522034	Socket, pilot light: incl brkt...	.15
9A533475	Socket, 3 pin (spkr).....	.10
9R119819	Socket, tube: 7 pin min; with dummy lug.....	.15
2S7087	Speed nut: 3/32" rnd (dial scale mtg).....	.01
4K481689	Washer, felt.....	.01
39A28036	Wiper, cover gnd.....	.01
MOUNTING PARTS AND ACCESSORIES		
7K522056	Bracket, radio mtg.....	.25
7A513381	Bracket, spkr plate (595 & 595-12)	
7B521394	Bracket, spkr mtg (595 & 595-12)..	
42K512784	Strap, radio mtg.....	.20
1V522214	Kit, mounting parts.....	2.25
8A4491	Capacitor, generator.....	.85
6A4141	Suppressor (distributor lead).....	.30
TUNER 77D522054 (AT-117) PARTS LIST		
(See Electrical Parts List for electrical parts.)		
77D522054	Tuner: complete.....	21.50
76K522275	Core, iron (tuning).....	.55
51A500995	Clutch Drive Assem.....	2.80
5A501013	Grommet, core mtg.....	.03
1K522379	Pointer Arm Assem.....	.75
51K512203	Shaft, pinion and drive disc.....	.35
46A502506	Sleeve, iron.....	.35
*41K522368	Spring, carriage take-up.....	
41A501047	Spring, clutch bar return.....	.10
41A501096	Spring, pointer anti-backlash.....	.10
*4A501039	Washer, "C" (pointer).....	.01

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
*New Item, Appears in any List for First Time
**Plus Federal Excise Tax at Current Rate



595-12 SPKR DIAGRAM

NOTES:-

CAPACITORS - DECIMAL VALUES IN MF, ALL OTHERS IN MMF UNLESS OTHERWISE SPECIFIED.

VOLTAGES - MEASURED FROM POINT INDICATED TO CHASSIS WITH A VTVM. NO SIGNAL INPUT. ±10% INPUT VOLTAGE AT SWITCH 14V DC

TUNING RANGE - 535 TO 1605 KC

IF - 455KC

MODELS 555-12 & 595-12 SCHEMATIC DIAGRAM